

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions and listings of claims in the above-referenced application:

1 1.-10. (Canceled)

1 11. (Currently amended) A rapid diagnostic test system, comprising:
2 a single-use module including:
3 a test strip having a test stripe, a control stripe, and a receiving zone,
4 the test strip being capable of generating a response at the test stripe and the control
5 stripe subsequent to contact of a ~~single~~ liquid sample in the receiving zone, the test
6 stripe containing a labeling substance that comprises first persistent fluorescent
7 structures that emit light having a first frequency and second persistent fluorescent
8 structures that emit light having a second frequency, wherein each of the first
9 persistent fluorescent structures is attached to a substance capable of binding the first
10 persistent fluorescent structure to a target analyte after ~~a single~~ the liquid sample
11 containing the target analyte is applied to the receiving zone;
12 a light source positioned to illuminate a target area and a control area
13 within the single-use module, the target area encompassing the test stripe and the
14 control area encompassing the control stripe;
15 a first photodetector positioned to measure light of the first frequency
16 from the target area;
17 a second photodetector positioned to measure light of the second
18 frequency from the control area, wherein a signal from the second photodetector
19 indicating an intensity above a threshold level indicates that the sample has passed
20 through the target area; and
21 ~~a cap arranged to cover an opening in the single-use module to isolate~~
22 ~~the single liquid sample, the single-use module having~~ a terminal arranged along at
23 least one external surface of a circuit substrate that extends through and beyond an
24 external surface of a housing of the single-use module for receiving electrical power
25 from a source external to the single-use module ~~for the light source, the first~~

26 ~~photodetector, and the second photodetector~~ and for communicating information to a
27 reusable module[;] when the terminal being part of an interface that is insertably
28 engaged ~~received~~ in a receptacle of a the reusable module, the terminal comprising
29 conductors layered along ~~an~~ the at least one external surface of the circuit substrate
30 ~~single-use module, wherein application of the single liquid sample to the receiving~~
31 ~~zone of the test strip excludes the use of the light source, the first photodetector and~~
32 ~~the second photodetector disposed within the single-use module from being used to~~
33 ~~analyze an additional liquid sample different from the single liquid sample.~~

1 12. (Previously presented) The system of claim 11, wherein the reusable
2 module implements a user interface capable of indicating a test result.

1 13. - 20. (Canceled)

1 21. (Previously presented) The system of claim 12, wherein the user
2 interface comprises a display for the test result.

1 22. (Previously presented) The system of claim 11, wherein the signal is
2 an electrical test signal.

1 23. (Previously presented) The system of claim 11, wherein the first and
2 the second persistent fluorescent structures comprise quantum dots.

1 24. – 25. (Canceled)

1 26. (Previously presented) The system of claim 11, wherein the test
2 strip comprises a lateral-flow strip for performing a binding assay, and the target area
3 contains an immobilized substance that binds to and holds a complex including one of
4 the first persistent fluorescent structures and the target analyte.

1 27. – 38. (Canceled)

1 39. (Previously presented) The system of claim 26, wherein the second
2 persistent fluorescent structures bind to the control stripe.

1 40. (Previously presented) The system of claim 11, further comprising:
2 a first color filter that transmits light of the first frequency to the first
3 photodetector and blocks other frequencies; and
4 a second color filter that transmits light of the second frequency to the second
5 photodetector and blocks other frequencies.

1 41. (Previously presented) The system of claim 11, wherein the control
2 stripe contains an immobilized substance that binds and retains to the labeling
3 substance.

1 42. (Previously presented) The system of claim 11, further comprising
2 an optical system positioned in a light path between the light source and at least one of
3 the first and second photodetectors, the optical system arranged to process incident
4 light from one of the control area and the target area, wherein the optical system
5 comprises a lens.

1 43. (Previously presented) The system of claim 42, wherein the optical
2 system comprises a chromatic prism.

1 44. (Previously presented) The system of claim 42, wherein the optical
2 system comprises a thin-film filter.

1 45. (Previously presented) The system of claim 42, wherein the optical
2 system comprises a diffractive grating.

1 46. (Previously presented) The system of claim 11, wherein the terminal
2 of the single-use module is configured to be pluggably inserted into the receptacle of
3 the reusable module for communicating test result signals between the single-use
4 module and the reusable module.